

# Lexium FastAlign 7100 Pro Digital Satellite Meter

- DiSEqC 1.0, 1.1 and 1.2 compatible
- Fully programmable
- AutoFind and QuickSweep technologies
- USB Interface



Professional  
Technology



# Lexium's New Satellite Meter Powerhouse

■ TELE-satellite author Ron Roessel using the FastAlign 7100 Pro Digital Satellite Meter to adjust his BUD after hurricane Irene passed through his location. The FastAlign's features made this an easy and fast task.

WS International is a company that was founded back in April of 2001. They are a global wholesale distributor of FTA satellite receivers and related satellite equipment (LNBs, satellite meters, antennas, motors, etc.). They have offices in Marietta, Georgia (outside of Atlanta) and Pacoima, California (near Los Angeles) and distribute their products around the world. WS International markets their satellite receivers and satellite meters under their own Lexium brand name. The

Lexium product line has had quite a bit of success over the past several years and WS International is always working to add new and better products to their product line.

In keeping with that philosophy, WS International has recently introduced a new digital satellite meter to their line of Lexium products. The new FastAlign 7100 Pro professional satellite meter boasts the latest technology in the industry and is highlighted by the new AutoFind and QuickSweep features.

Naturally, we were very interested in finding out more about this new meter. WS International was kind enough to send us a sample so that we could take a closer look at the new FastAlign 7100 Pro and find out exactly what it has to offer.

The Lexium FastAlign 7100 Pro comes packaged in a bright blue colored box. When you open the box it's easy to see that great care was taken in protecting the signal meter in the package. The meter as well as the accessories are

each surrounded individually by Styrofoam to provide the ultimate protection. Even the eight Ni-HM 2700 mAh rechargeable batteries are in their own Styrofoam compartment. The package includes the FastAlign 7100 Pro signal meter as well as a 16 VDC power supply, the eight rechargeable batteries, a blue colored carrying case, a handy shoulder strap and a 34-page English language user manual. 240V AC chargers in addition to spare AA rechargeable batteries and





spare 110V AC chargers are available for purchase from WS International or their local distributor in Europe & Africa.

The signal meter itself can easily be held in one hand and is 149x97x60mm in size. It comes in a black housing and sports a 23x97mm LCD display on the front panel. A set of four blue-colored function buttons along with a single status LED can also be found on the front panel. There's also a small speaker on the left side of the front panel. On the rear panel you'll find the LNB "F" input connector along with a looped-through output connector. There you'll also

find the 16 VDC input jack as well as a USB interface.

Before doing anything else, the rechargeable batteries need to be installed into the 7100 Pro signal meter. The battery compartment is located on top of the meter and is accessed by opening the top cover. All eight rechargeable batteries supplied with the meter need to be installed. The inside of the battery compartment is clearly marked to help prevent the batteries from being installed incorrectly. The manufacturer recommends charging the batteries for at least five hours before using the signal

meter for the first time. The meter weighs in at about 1 Lb 7 oz (645g) with the batteries installed. When the power supply is plugged in to the signal meter, not only does the status LED illuminate red, but progress of the charge is also shown on the LCD display. There's a timer to indicate how long the meter has been charging and there's also an indicator to show the voltage level of the batteries. When we plugged in the power supply, the timer started at 00:00 and the voltage level was at 10.5V. Although the manufacturer recommended an initial charge time of five hours, we let the signal meter charge overnight. At the end of the charging cycle, the LED turned off and the display showed the message

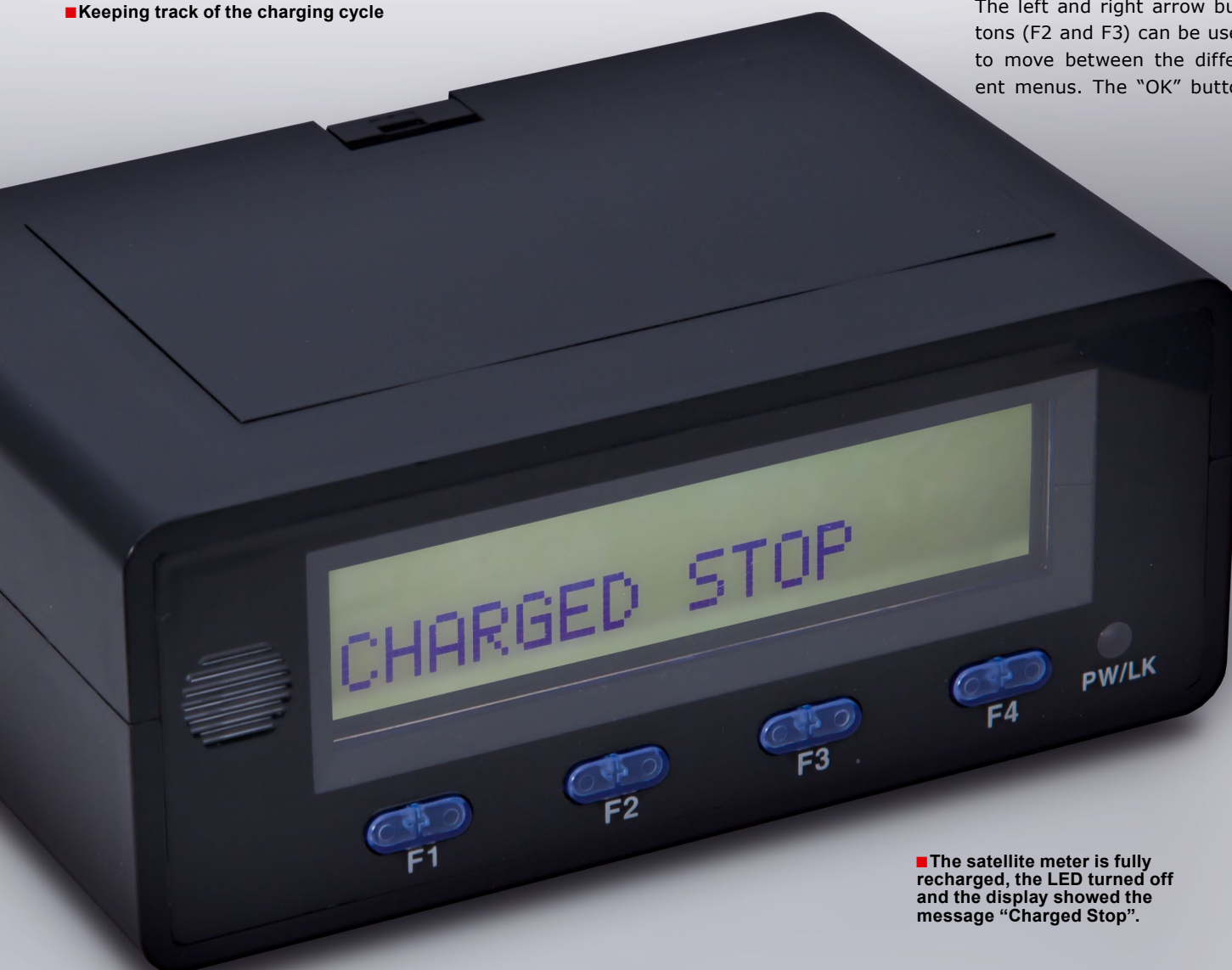
"Charged Stop". This is a very interesting feature that let's you keep an eye on the progress of a charging cycle.

Now that the meter is fully charged, we can start putting it through its paces. Turning the meter on is a simple matter of holding down the F4 function button for about two seconds. The very first screen to appear asks you to decide whether or not you want the backlight for the LCD display turned on. Simply push the F1 button for "Day" (backlight off) or the F2 button for "Night" (backlight on). If you don't make a choice within ten seconds, the meter automatically turns itself off.

There are four menus built into the meter: Additional Functions, Manual Search, Auto Search and Motor 1.2. The left and right arrow buttons (F2 and F3) can be used to move between the different menus. The "OK" button

CHARGED T.11:31  
BATTERY V.11,1V

■ Keeping track of the charging cycle



■ The satellite meter is fully recharged, the LED turned off and the display showed the message "Charged Stop".



(F1) is then used to select the desired menu that you want to work with.

We decided to start with the Additional Functions menu. From this menu you can choose to edit the parameters of the satellites stored in the meter's memory or modify the settings of the

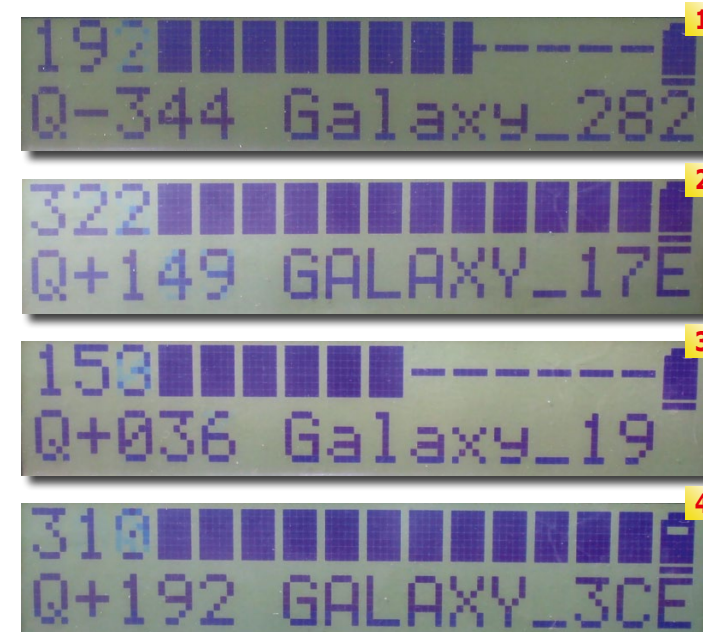
meter. The FastAlign 7100 Pro comes preloaded from the factory with only 27 satellites that include many of the more popular American satellites as well as a few Asian satellites. However, soon regionalized lists will be available from the manufacturer's website [www.LEXIUM-DVB.com](http://www.LEXIUM-DVB.com) covering

the popular satellites in Europe, Asia, Middle East and Africa.

If the satellite you want to align your antenna to is not in the list, you simply need to edit one of the existing entries using the front panel function buttons to add the satellite you need. This is done in the

Editor menu inside the Additional Functions menu. Once you are in the Editor menu, you can among other things change the satellite name, edit transponder data, select the correct LNB LOF frequency (OFF, Universal, 10750, 5150, 5750, 10600, 9750 and 11300), set up any necessary DiSEqC protocols (1.0 and 1.1 can be set up here; there's a separate menu section for setting up DiSEqC 1.2), enter in the orbital position of the satellite as well as turn the Auto Search feature on or off.

The USB port on the back of the meter lets you link the meter with a laptop or a PC. This link will allow you to perform these editing functions on your laptop or PC with loader software available from the manufacturer at [www.LEXIUM-DVB.com](http://www.LEXIUM-DVB.com) or [www.wsidigital.com](http://www.wsidigital.com). The software allows



1. While searching for Galaxy 17, the meter first found Galaxy 28. We continued moving the antenna until...
2. ...the meter locked onto the Galaxy 17 satellite at 89W
3. Confirmation that our 90cm antenna was still pointed to Galaxy 19 at 97W.
4. The Lexium FastAlign 7100 Pro satellite meter helped us find Galaxy 3C in no time at all.

the user to change and/or update all parameters including DiSEqC port settings, LO frequencies, transponder names, and parameters.

The AutoFind technology that is built into the FastAlign 7100 Pro satellite meter is an automatic satellite recognition technology that recognizes the satellite that your antenna is pointing to and then displays the name of that satellite on the meter's LCD display from the preprogrammed list of satellites stored in the meter's memory. Directly above the name of the satellite is also a signal quality bar graph that can be used to fine tune the antenna for best possible signal.

The timing of this test report couldn't have been any better. Hurricane Irene passed through our test center here on Long Island, New York just a few days ago. She brought with her quite a bit of wind that resulted in many of our dish antennas being blown out of alignment. This proved to be the perfect opportunity to put the meter through its

paces. The worst hit antenna was our 3.0-meter C-band mesh dish. The strong winds created such a great amount of torque that the entire antenna assembly spun around on top of the mast. So much for the mounting bolts that were supposed to keep the antenna in place. This seemed like a good place to start.

Once the dish was placed back into a position that was close to what it was before the storm, we connected the Lexium FastAlign 7100 Pro to the C-band LNB. The C-band antenna was pointed to GALAXY 17 at 91W before Irene greeted us so the goal was to realign the antenna to that satellite. But before we tried to find GALAXY 17 with the Lexium meter, we first had to program this satellite as well as a few of the surrounding satellites into the satellite meter since these were not preprogrammed in the meter. As mentioned before, some of the preprogrammed satellites stored in memory were Asian satellites so we decided to reprogram some of these

entries with the American satellites that we needed. Since we wanted to find GALAXY 17, we programmed this satellite as well as the two surrounding satellites GALAXY 28 at 89W and GALAXY 25 at 93W.

Now that the Lexium meter has the correct satellite information, it was time to realign our C-band dish. We turned the satellite meter on and selected DAY mode since the sun was shining brightly outside and we therefore didn't need any backlighting on the LCD display. We then used to left/right arrow buttons (F2/F3) to find the Auto Search screen and pressed the OK button (F1) to start the Auto Search. The FastAlign 7100 Pro was now actively searching for satellite signals.

The C-band dish was slowly rotated on its mast while keeping an eye on the satellite meter. It didn't take long for the meter to lock onto a signal; the green "signal lock" LED on the front panel illuminated and it instantly identified the satellite as GALAXY 28. Since we wanted to align to GALAXY 17, we knew that we had to rotate the antenna just a little more to the right (west) in order to find GALAXY 17. And, sure enough, a few seconds later the green "signal lock" LED on the front panel illuminated once again and the Lexium meter reported that we had found GALAXY 17. As mentioned before, the display shows not only the satellite name but also a signal quality bar graph making it a snap to fine tune the antenna. After adjusting the antenna for the best possible signal, all the mounting hardware was retightened and in just a few minutes our C-band antenna was back in service. The Lexium FastAlign 7100 Pro satellite meter not only identified the correct satellite by name, it also told us if we were on a different satellite by also identifying it by name. We therefore knew

exactly which way to turn the antenna to find the target satellite. There were no guessing games involved.

The Lexium meter's Quick Sweep technology allows the meter to react to satellite signals very quickly. There is no lag time from when the satellite signal reaches your dish antenna to when it is displayed on the meter. This allows you to move your dish at a faster rate across the satellite arc without having to worry about overshooting the target satellite. The quick response of the meter will prevent you from missing the satellite you want to receive.

But we weren't finished. Our test center also has a smaller 90cm Ku-band antenna pointed to GALAXY 19 at 97W that fortunately wasn't affected by Hurricane Irene. Nevertheless, we wanted to "make sure" that everything was still OK with this antenna. First of all, we used the Lexium meter to confirm that this was the case. The green "signal lock" LED popped on and the meter showed that indeed our 90cm antenna was still pointed to GALAXY 19 and that Hurricane Irene's wrath did not bother it at all. But we wanted to go a step further and see how long it would take for us to find the GALAXY 3C satellite at 95W. Both satellites were already preprogrammed in the meter so we had to do nothing more than connect the meter to the LNB and start moving the dish. The mounting screws were loosened on the antenna and the realignment began. The dish was moved slowly east and within just a few seconds the Lexium meter chimed in letting us know we had found GALAXY 3C. It really doesn't get any easier than that.

The Lexium meter's user manual specifies that the meter can be used for about four hours on fully charged batteries. In our tests we were able to use the 7100 Pro for the en-





tire duration of our tests without having to recharge the batteries. Of course, if you plan on using the signal meter to drive a DiSEqC 1.2 motor, you can expect the operational time of your meter to be somewhat less because of the extra load created by an antenna motor. Since these are AA rechargeable batteries, you can always carry around a spare set of conventional AA batteries just in case the rechargeable ones die and there's no opportunity to recharge them in between jobs.

In this way, you can continue to work and not have to worry about the meter dying in the middle of an alignment.

Other niceties include a user-settable timer that will shut the meter off after a certain amount of inactivity. It's a nice feature that helps save your batteries in case you should forget to turn the meter off after a job. The Lexium meter can also be used in Manual Search mode. In this mode the meter will only identify the selected satellite but it will lock onto the desired

satellite just as quickly as in Auto Search mode. And let's not forget DiSEqC 1.2 mode. In this mode the meter can be used to drive any DiSEqC 1.2 compatible antenna motor and will allow you to easily align a motor driven antenna.

Overall, we were quite impressed by the capabilities of the Lexium FastAlign 7100 Pro satellite meter. It performed as advertised by identifying satellites by name as the antenna was swept across the satellite arc. This automatic identification of

satellites makes antenna installations quick and painless; the installer will know exactly which way to move a dish if the meter names a satellite other than the target satellite.

The FastAlign 7100 Pro takes a lot of the guesswork out of satellite antenna installations. What more could you ask for?

Customers interested in this product can contact WS International via [www.wsi-digital.com](http://www.wsi-digital.com) to request contact information for local distributors in their region.

## Using the Lexium FastAlign 7100 Pro in Europe

Thomas Haring



**1. The FastAlign 7100 Pro mastered the reception of the ABS satellite at 75° east; other signal analyzers were not up to the task.**

**2. The analyzer also had no trouble with the HELLASSAT bird at 39° east, one of the 27 satellite positions preprogrammed in the original version of the FastAlign 7100 Pro.**

The way the Lexium FastAlign 7100 Pro is delivered from the factory, it's clear that it's focus is on North America. But since Lexium is planning to market this product in other regions of the world, we thought it

would be a good idea to send our test sample to the TELE-satellite test center in Austria so that its functionality can also be checked out in Europe.

The preprogrammed satellite and transponder list in the Lexium signal meter does not include any of the popular DTH satellites in Europe such as AS-

TRA 19.2° east or HOTBIRD 13.0° east, although there are some less popular satellites in the list. These include HELLAS SAT at 39° east, EXPRESS AM22 at 53° east, BONUM1 at 56° east, INTELSAT 904 at 60° east as well as ABS1 at 75°.

Before we began to add some other more standard European satellite positions, we first wanted to test the capabilities of the FastAlign 7100 Pro with the existing data.

The ABS1 satellite at 75° east is fairly weak and more difficult to receive in Europe and the FEC of 7/8 (seven of the eight data bits are information bits with only one bit an error correction bit) that nearly every transponder has presents quite a challenge. Quite a few other signal analyzers "overlook" this satellite during antenna alignment since the tuner more often than not can't read and process the weaker, error-prone signal fast

enough. Before you know it, you’ve turned the antenna past the ABS1 satellite at 75° east.

But that’s not the case with the Lexium FastAlign 7100 Pro! We started slowly turning our antenna from 60° east and after only a few seconds the green LED on the front panel of the Lexium meter lit up announcing that we had found the ABS1 bird at 75° east! The Lexium also had no trouble locking on to the EXPRESS AM22 at 53° east; it recognized this satellite instantly and fully automatically.

But we weren’t finished; the meter now had to prove itself on the popular DTH satellites ASTRA 19.2° east, HOTBIRD 13° east as well as ASTRA2 28.2° east. Since these satellites were not preprogrammed into the meter by the manufacturer (the European version of the FastAlign 7100 Pro would undoubtedly include these satellites), we had to manually program them into the Lexium. This task was actually accomplished quickly and easily thanks to its simple and logical operation; the four front-panel function buttons also helped.

In just about two minutes the Lexium meter became



an indispensable aid for European users. We were now able to quickly align our multi-focus antenna precisely and effortlessly to the ASTRA 19.2° east, ASTRA2 28.2° east and HOTBIRD 13° east satellites.

We here in the TELE-satellite test center in Austria actually enjoyed checking out the Lexium FastAlign

7100 Pro and we can’t wait to see the European version of this signal meter.

TECHNICAL DATA	
Distributor (North America)	WS International, Atlanta, Georgia and Los Angeles, California, USA
Home Page	www.wsidigital.com or www.LEXIUM-DVB.com
e-mail	sales@wsidigital.com
Product	FastAlign 7100 Pro Digital Satellite Meter
Frequency Range	950 to 2150 MHz
Signal Level	-65dBm to -25dBm
DiSEqC Compatible	yes, 1.0, 1.1 and 1.2
LNB Supply	13/18V, 500mA max
LNB Switch Control	22 KHz
Demodulator	QPSK
Signal Input	“F” type with looped-through output
USB Interface	yes
Power Source	Eight 1.2VDC 2700mAh NiMH rechargeable batteries
Battery Charger	120V/60Hz input; 16VDC/750mA output
Dimensions	149x97x60mm
Weight	0.645Kg (1 Lb 7 Oz)

Expert Opinion



The Lexium FastAlign 7100 Pro satellite meter is an excellent dish antenna installation tool. It’s a handheld device that instantly identifies the name of a satellite that the antenna is pointing to and also displays a signal quality bar graph for quick and easy antenna fine tuning adjustments. It runs for hours on a single charge and can be used day or night thanks to its backlit display.

It has room for only 27 preprogrammed satellites. If you want to enter a new satellite, you must edit an existing satellite memory location. There’s also no car charger included in the package.